

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Cancelled)

2-103 (Previously Cancelled)

104. (Previously Added) A cleaning and whitening system for teeth, comprising:

a toothbrush having a cleaning surface, the toothbrush comprising a source of electromagnetic radiation configured to direct polychromatic electromagnetic radiation toward the cleaning surface, wherein the polychromatic electromagnetic radiation consists essentially of wavelengths from 300 to 750 nanometers, wherein an output configuration of the source of electromagnetic energy is relatively low such that electromagnetic radiation can be emitted toward the cleaning surface of the toothbrush during brushing to enhance whitening and cleaning of the teeth when used in combination with a dentifrice; and

a dentifrice comprising a photosensitive agent dispersed throughout the dentifrice, the dentifrice being adapted to be dispersed over a target surface and to transmit the polychromatic electromagnetic radiation, whereby during use a significant portion of the dispersed photosensitive agent over the target surface receives the polychromatic electromagnetic radiation, thus enabling the significant portion of the dispersed photosensitive agent to react, the photosensitive agent comprising a whitening compound.

105. (Previously Added) The system of claim 104, wherein the whitening compound is a peroxy compound.

106. (Previously Added) The system of claim 104, wherein the dentifrice comprises about 1.5% peroxide.

107. (Previously Added) The system of claim 104, wherein the whitening compound is hydrogen peroxide or carbamide peroxide.

108. (Previously Added) The system of claim 104, wherein the source of electromagnetic radiation comprises a continuous wave source of electromagnetic radiation.

109. (Previously Added) The system of claim 104, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation through the bristles toward the cleaning surface.

110. (Currently Amended) The system of claim 104, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation around, ~~rather than through,~~ the bristles toward the cleaning surface

111. (Previously Added) The system of claim 104, wherein the dentifrice is a clear gel.

112. (Previously Added) The system of claim 104, wherein the polychromatic electromagnetic radiation consists essentially of a band of wavelengths from 300 to 750 nanometers.

113. (Previously Added) A cleaning and whitening system for teeth, comprising:

a toothbrush having a cleaning surface, the toothbrush comprising a source of electromagnetic radiation configured to direct polychromatic electromagnetic

radiation toward the cleaning surface, wherein the polychromatic electromagnetic radiation consists essentially of wavelengths from 300 to 750 nanometers, wherein an output configuration of the source of electromagnetic energy is relatively low such that electromagnetic radiation can be emitted toward the cleaning surface of the toothbrush during brushing to enhance whitening and cleaning of the teeth when used in combination with a dentifrice; and

a dentifrice comprising a photosensitive agent dispersed throughout the dentifrice, the dentifrice being adapted to be dispersed over a target surface and to transmit the polychromatic electromagnetic radiation, whereby during use a significant portion of the dispersed photosensitive agent over the target surface receives the polychromatic electromagnetic radiation, thus enabling the significant portion of the dispersed photosensitive agent to react, the photosensitive agent comprising one or more salt compounds.

114. (Previously Added) The system of claim 113, wherein the dentifrice is aqueous and at least a portion of the salt compound is dissolved in the dentifrice.

115. (Previously Added) The system of claim 113, wherein the dentifrice comprises about 1.5% peroxide.

116. (Previously Added) The system of claim 113, wherein the source of electromagnetic radiation comprises a continuous wave source of electromagnetic radiation.

117. (Previously Added) The system of claim 113, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation through the bristles toward the cleaning surface.

118. (Previously Added) The system of claim 113, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation around the

bristles toward the cleaning surface.

119. (Previously Added) The system of claim 113, wherein the dentifrice is a clear gel.

120. (Previously Added) The system of claim 113, wherein the polychromatic electromagnetic radiation consists essentially of a band of wavelengths from 300 to 750 nanometers.

121. (Previously Added) A cleaning and whitening system for teeth, comprising:

- a toothbrush having a cleaning surface and a source of electromagnetic radiation constructed to direct electromagnetic radiation toward the cleaning surface, wherein the electromagnetic radiation is at least substantially free of ultraviolet radiation; and

- a dentifrice comprising a photosensitive agent, which is dispersed throughout the dentifrice and which comprises a whitening compound, wherein during use the dentifrice is dispersed over a target surface and the dentifrice has a transparency sufficient to transmit the electromagnetic radiation, whereby a significant portion of the dispersed photosensitive agent over the target surface receives the electromagnetic radiation during use of the system, thus enabling the significant portion of the dispersed photosensitive agent to react.

122. (Previously Added) The system of claim 121, wherein the whitening compound is hydrogen peroxide or carbamide peroxide.

123. (Previously Added) The system of claim 121, wherein the whitening compound is a peroxy compound.

124. (Previously Added) The system of claim 121, wherein the dentifrice comprises about 1.5% peroxide.

125. (Previously Added) The system of claim 121, wherein the source of electromagnetic radiation comprises a continuous wave source of electromagnetic radiation.

126. (Previously Added) The system of claim 121, wherein the source of electromagnetic radiation comprises a source of polychromatic electromagnetic radiation.

127. (Previously Added) The system of claim 126, wherein the source of polychromatic electromagnetic radiation comprises a light emitting diode.

128. (Previously Added) The system of claim 121, wherein the source of electromagnetic radiation comprises a source of monochromatic electromagnetic radiation.

129. (Previously Added) The system of claim 128, wherein the source of electromagnetic radiation comprises a continuous wave source of electromagnetic radiation.

130. (Previously Added) The system of claim 128, wherein the source of monochromatic electromagnetic radiation comprises a light emitting diode.

131. (Previously Added) The system of claim 121, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation through the bristles toward the cleaning surface.

132. (Currently Amended) The system of claim 121, wherein the toothbrush

comprises bristles and is constructed to direct electromagnetic radiation around, ~~rather than through,~~ the bristles toward the cleaning surface.

133. (Previously Added) The system of claim 121, wherein the dentifrice is a clear gel.

134. (Previously Added) A cleaning and whitening system for teeth, comprising:

a toothbrush having a cleaning surface and comprising a source of electromagnetic radiation constructed to direct electromagnetic radiation toward the cleaning surface, wherein the electromagnetic radiation is at least essentially free of ultraviolet radiation; and

a dentifrice comprising a photosensitive agent, wherein the photosensitive agent is dispersed throughout the dentifrice and comprises one or more salt compounds, wherein during use the dentifrice is dispersed over a target surface during use of the system and the dentifrice has a transparency sufficient to transmit the electromagnetic radiation, whereby a significant portion of the dispersed photosensitive agent over the target surface receives the electromagnetic radiation during use of the system, thus enabling the significant portion of the dispersed photosensitive agent to react.

135. (Previously Added) The system of claim 134, wherein the dentifrice is aqueous and at least a portion of the salt compound is dissolved in the dentifrice.

136. (Previously Added) The system of claim 134, wherein the source of electromagnetic radiation comprises a continuous wave source of electromagnetic radiation.

137. (Previously Added) The system of claim 134, wherein the source of electromagnetic radiation comprises a source of polychromatic electromagnetic radiation.

138. (Previously Added) The system of claim 137, wherein the source of polychromatic electromagnetic radiation comprises a light emitting diode.

139. (Previously Added) The system of claim 134, wherein the source of electromagnetic radiation comprises a source of monochromatic electromagnetic radiation.

140. (Previously Added) The system of claim 139, wherein the source of electromagnetic radiation comprises a continuous wave source of electromagnetic radiation.

141. (Previously Added) The system of claim 139, wherein the source of monochromatic electromagnetic radiation comprises a light emitting diode.

142. (Previously Added) The system of claim 134, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation through the bristles toward the cleaning surface.

143. (Currently Amended) The system of claim 134, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation around, ~~rather than through,~~ the bristles toward the cleaning surface.

144. (Previously Added) The system of claim 134, wherein the dentifrice is a clear gel.

145. (Previously Added) The system of claim 134, wherein the dentifrice comprises about 1.5% peroxide.

146. (Previously Added) A teeth cleaning and whitening system, comprising:
a. a dentifrice comprising a photosensitive agent that reacts substantially only to electromagnetic radiation within a predetermined range wherein:

i. the photosensitive agent is dispersed throughout the dentifrice and comprises a whitening compound;

ii. the dentifrice is dispersed over a target surface during use of the system; and

iii. the dentifrice has a transparency sufficient to transmit the electromagnetic radiation, whereby a significant portion of the dispersed photosensitive agent over the target surface receives the electromagnetic radiation during use of the system, thus enabling the significant portion of the dispersed photosensitive agent to react; and

b. a toothbrush having a cleaning surface, the toothbrush comprising an LED or a source of electromagnetic radiation constructed to direct electromagnetic radiation toward the cleaning surface, wherein the electromagnetic radiation is bound to wavelengths that are substantially within the predetermined range.

147. (Previously Added) The system of claim 146, wherein the whitening compound is hydrogen peroxide or carbamide peroxide.

148. (Previously Added) The system of claim 146, wherein the whitening compound is a peroxy compound.

149. (Previously Added) The system of claim 146, wherein the dentifrice comprises about 1.5% peroxide.

150. (Previously Added) The system of claim 146, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation.

151. (Previously Added) The system of claim 146, wherein the electromagnetic radiation is polychromatic electromagnetic radiation.

152. (Previously Added) The system of claim 146, wherein electromagnetic radiation is monochromatic electromagnetic radiation.

153. (Previously Added) The system of claim 152, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation.

154. (Previously Added) The system of claim 153, wherein the monochromatic electromagnetic radiation is emitted from a light emitting diode.

155. (Previously Added) The system of claim 146, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation through the bristles toward the cleaning surface.

156. (Currently Amended) The system of claim 146, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation around, ~~rather than through,~~ the bristles toward the cleaning surface.

157. (Previously Added) The system of claim 146, wherein the dentifrice is a clear gel.

158. (Previously Added) A teeth cleaning and whitening system, comprising:

a. a dentifrice comprising a photosensitive agent that reacts substantially only to electromagnetic radiation within a predetermined range wherein:

i. the photosensitive agent is dispersed throughout the dentifrice and comprises one or more salt compounds;

ii. the dentifrice is dispersed over a target surface during use of the system; and

iii. the dentifrice has a transparency sufficient to transmit the electromagnetic radiation, whereby a significant portion of the dispersed photosensitive agent over the target surface receives the electromagnetic radiation during use of the system, thus enabling the significant portion of the dispersed photosensitive agent to react; and

b. a toothbrush having a cleaning surface, the toothbrush comprising an LED or a source of electromagnetic radiation constructed to direct electromagnetic radiation toward the cleaning surface, wherein the electromagnetic radiation is bound to wavelengths that are substantially within the predetermined range.

159. (Previously Added) The system of claim 158, wherein the dentifrice is aqueous and at least a portion of the salt compound is dissolved in the dentifrice.

160. (Previously Added) The system of claim 158, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation.

161. (Previously Added) The system of claim 158, wherein the electromagnetic radiation is polychromatic electromagnetic radiation.

162. (Previously Added) The system of claim 161, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation.

163. (Previously Added) The system of claim 158, wherein electromagnetic radiation is monochromatic electromagnetic radiation.

164. (Previously Added) The system of claim 163, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation..

165. (Previously Added) The system of claim 164, wherein the monochromatic electromagnetic radiation is emitted from a light emitting diode.

166. (Previously Added) The system of claim 158, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation through the bristles toward the cleaning surface.

167. (Currently Amended) The system of claim 158, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation around; ~~rather than through~~, the bristles toward the cleaning surface.

168. (Previously Added) The system of claim 158, wherein the dentifrice is a clear gel.

169. (Previously Added) The system of claim 158, wherein the dentifrice comprises about 1.5% peroxide.

170. A method, comprising:

- a. providing a dentifrice, wherein the dentifrice comprises photosensitive whitening agents;
- b. providing an electromagnetic radiation emitting toothbrush;
- c. placing the dentifrice into contact with a portion of the electromagnetic radiation emitting toothbrush; and
- d. activating the electromagnetic radiation emitting toothbrush such that the electromagnetic radiation emitting toothbrush emits electromagnetic radiation wavelengths consisting essentially of non-ultraviolet radiation during brushing.

171. (Previously Added) The method of claim 170, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation.

172. (Previously Added) The method of claim 170, wherein the electromagnetic radiation consists essentially of wavelengths within a range of 300 to 750 nanometers.

173. (Previously Added) The method of claim 170, wherein the electromagnetic radiation is polychromatic electromagnetic radiation.

174. (Previously Added) The method of claim 173, wherein the electromagnetic radiation consists essentially of a band of wavelengths from 300 to 750 nanometers.

175. (Previously Added) The method of claim 174, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation.

176. (Previously Added) The method of claim 170, wherein electromagnetic radiation is monochromatic electromagnetic radiation.

177. (Previously Added) The method of claim 176, wherein the electromagnetic radiation is continuous-wave electromagnetic radiation.

178. (Previously Added) The method of claim 176, wherein the monochromatic electromagnetic radiation is emitted from a light emitting diode.

179. (Previously Added) The method of claim 170, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation through the bristles.

180. (Currently Amended) The method of claim 170, wherein the toothbrush comprises bristles and is constructed to direct electromagnetic radiation around ~~rather than through~~ the bristles.

181. (Previously Added) The method of claim 170, wherein the dentifrice is a clear gel.

182. (Previously Added) The system of claim 170, wherein the dentifrice comprises about 1.5% peroxide.

183. (New) The system of claim 104, wherein the dentifrice comprises an anti-caries agent.

184. (New) The system of claim 183, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the radiation throughout a thickness of the clear gel.

185. (New) The system of claim 183, wherein the anti-caries agent comprises fluoride.

186. (New) The system of claim 185, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the radiation throughout a thickness of the clear gel.

187. (New) The system of claim 113, wherein the dentifrice comprises an anti-caries agent.

188. (New) The system of claim 187, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

189. (New) The system of claim 187, wherein the anti-caries agent comprises fluoride.

190. (New) The system of claim 189, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

191. (New) The system of claim 121, wherein the dentifrice comprises an anti-caries agent.

192. (New) The system of claim 191, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

193. (New) The system of claim 191, wherein the anti-caries agent comprises fluoride.

194. (New) The system of claim 193, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

195. (New) The system of claim 134, wherein the dentifrice comprises an anti-caries agent.

196. (New) The system of claim 195, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

197. (New) The system of claim 195, wherein the anti-caries agent comprises fluoride.

198. (New) The system of claim 197, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

199. (New) The system of claim 146, wherein the dentifrice comprises an anti-caries agent.

200. (New) The system of claim 199, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

201. (New) The system of claim 199, wherein the anti-caries agent comprises fluoride.

202. (New) The system of claim 201, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

203. (New) The system of claim 158, wherein the dentifrice comprises an anti-caries agent.

204. (New) The system of claim 203, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to

thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

205. (New) The system of claim 203, wherein the anti-caries agent comprises fluoride.

206. (New) The system of claim 205, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

207. (New) The method of claim 170, wherein the dentifrice comprises an anti-caries agent.

208. (New) The method of claim 207, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.

209. (New) The method of claim 207, wherein the anti-caries agent comprises fluoride.

210. (New) The method of claim 209, wherein the dentifrice comprises a clear gel that maximizes transmission of electromagnetic radiation therethrough, to thereby maximize an interaction of the clear gel with the electromagnetic radiation throughout a thickness of the clear gel.